

April 19, 1956

APPLICATION OF A NEW BIO-ASSAY TECHNIQUE IN EXAMINATION OF CIGARETTE SMOKE CONDENSATE FOR POSSIBLE CARCINOGENS.

103 mice of dba #1 strain have been used in this project thus far.

22 mice have received semi-weekly applications of tobacco tar condensate which is applied directly to the cervix by means of a cotton-tipped applicator saturated with the above solution.

10 mice have been subjected to a similar procedure at the same time intervals, but with the applicator saturated with solvent "A" (Vehicle in which the tobacco tar condensate has been dissolved).

Another 10 mice have been used in the same fashion using a dry cotton applicator.

The latter group serves as a control.

Of the remaining mice all have been used for insertion of cotton wicks. These wicks are first saturated with either the tobacco tar condensate or solvent "A" and are inserted into the cervical os. The wick consists of #8 cotton thread with a barrel-knot placed in one end. The end consisting of the knot is saturated with the appropriate solution before insertion. The free end is brought out of the uterine corpus and affixed to the abdominal wall so as to keep the saturated barrel-knot in close proximity to the cervical os.

Dry untreated cotton wicks have been used in another group to serve as a control.

- RESULTS -

A number of the mice used in the applicator groups have developed inflammatory lesions of the perineum with marked overgrowth of granulation tissue. As soon as lesions were noted the affected mice were isolated and applications discontinued. All lesions have healed spontaneously. It is interesting to note that most of the inflammatory lesions have developed in the solvent "A" applicator group. One inflammatory lesion occurred in the tobacco tar applicator group and one lesion occurred in a mouse of the group awaiting wick insertion and occurred prior to any of our manipulative procedures. This last mouse experienced the most severe lesion of all and resulted in marked perineal deformity due to the scarring, so that there is some question as to exact cause of these lesions.

We have not had any demonstrable neoplasms in the applicator group as yet. If our estimations are correct, based on previous research findings with carcinogens, this group would not be expected to develop neoplasms in less than 12 months, even if a proven carcinogen was being employed.

We believe that the above methods will enable us to eventually express an opinion as to the effects of tobacco tar condensate on the cervical and vaginal epithelium of mice and to evaluate any stimulatory or even carcinogenic properties that it may possess. The animals have simply not been committed for a sufficient length of time to make this possible at present.

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